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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/683,536	10/09/2003	Fred A. Fensel	GARL 2 13447-1	2612

7590

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EXAMINER

NORDMEYER, PATRICIA L

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 07/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/683,536

Applicant(s)

FENSEL ET AL.

Examiner

Patricia L. Nordmeyer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 64-96 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 64-96 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 304, 11/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 64 – 83 and 94 – 97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harshberger et al. (USPN 2,202,002) in view of Harshberger et al. (USPN 2,131,044).

Harshberger et al. ('002) disclose a roofing or siding composition (Page 1, Column 1, lines 15 – 16 and Page 2, Column 2, lines 1 – 5) with granules secured to the surface of a fibrous roofing base by embedding them in a layer of adhesive material chosen from bitumen or asphalt (Page 1, Column 1, lines 16 – 21). The granules are chosen from a mixture of aluminum oxide, iron oxide and silicon dioxide (Page 2, Column 2, lines 45 – 54). However, Harshberger et al ('002) fails to disclose the granules covering over about 95% to 98% of said to surface, the granules being of two different sizes, wherein the first size is greater than the second resulting in a ratio of 1.3:1, the roofing or siding material comprising a composite fabric, a reflectivity of about 45% to 99.9%, a average hardness of at least about 3 to 4 Moh, an average opacity of at least 55 – 60% and an average porosity between 0 and 20%.

Harshberger et al. ('044) teach a roofing material made with a felted material, composite fabric, of vegetable fibers, wool, asbestos or hair (Page 2, Column 1, lines 31 – 34), which is coated with a layer adhesive coating chosen from bituminous material or a resinous type material in which the porous granules are embedded (Page 2, Column 1, lines 38 – 46 and Column 2, line 17) to form a material with granules of two different sizes covering about 95% to 98% of the surface (Figures 3, 5 and 6) for the purpose of making an improved roofing material where the granules have an increased grip with the adhesive layer (Page 2, Column, 2 lines 10 – 16).

Therefore, one of ordinary skill in the art would have recognized that the felt material coated with adhesive and having 95% to 98% of its surfaced coated with granules is well known in the art to as a roofing or siding system to protect building structures from the elements as shown by Harshberger et al. ('044).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have provided the felt composite with 95% to 98% of its surface covered with granules in Harshberger et al. ('002) in order to make an improved roofing material where the granules have an increased grip with the adhesive layer as taught by Harshberger et al. ('044).

Regarding the limitations of reflectivity, harness, opacity and porosity in claims 64, 74 and 94, one of ordinary skill in the art would have recognized that the roofing or siding system would have a reflectivity of about 45% to 99.9%, a average hardness of at

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least about 3 to 4 Moh, an average opacity of at least 55 – 60% and an average porosity between 0 and 20% since Harshberger et al. disclose a roofing or siding system containing aluminum oxide, iron oxide and silicon dioxide (Page 2, Column 2, lines 45 – 54), which is used because of its light mass and physical strength (Page 2, Column 2, lines 20 – 22) and because of its porosity that gives it good adherence to the adhesive materials (Page 1, Column 1, lines 13 – 21). Therefore, one of ordinary skill in the art would readily determine the optimum reflectivity, hardness, opacity and porosity depending on the end desired end results in the absence of unexpected results.

Regarding the limitations of the roofing or siding system containing varying amounts of aluminum oxide, silicon dioxide, iron oxide, calcium oxide and magnesium oxide in claims 64, 66 – 69, 74, 76 – 79 and 94, the prior art element, the mixture of aluminum oxide and silicon dioxide granules (Page 2, Column 2, lines 45 – 54) performs a equivalent function to the corresponding elements disclosed in the specification, the mixture of the aluminum oxide and silicon dioxide in greater weight ratios. That it, the prior art elements performs the function, the ability of the surface granules to reflect light from the surface, specified in the claim in substantially the same manner as the function is performed by the greater weight percentages of the same materials described in the specification. MPEP 2183.

3. Claims 84 – 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harshberger et al. (USPN 2,202,002) in view of Harshberger et al. (USPN 2,131,044) as

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applied to claims 64 – 83 and 94 – 97 above, and further in view of McArdle et al. (US Pub. No. US 2002/0066233 A1).

Harshberger et al. ('002), as modified with Harshberger et al. ('044), discloses the claimed invention of a roofing or siding system made with a layer of adhesive material having granules embedded therein made with a weight percentage of aluminum oxide and silicon dioxide. However, the modified Harshberger et al. fails to disclose a plurality of said granules including crushed porcelain, said porcelain including silicon dioxide and at least about 25 weight percent aluminum oxide and a total weight percent of aluminum oxide and silicon dioxide of 75 to 85%.

McArdle et al. teaches aluminum oxide, alumina, (Page 2, line 31), which inherently contains at 15 weight percent, silica (Page 2, line 39) and crushed porcelain (Page 2, line 47) having a diameter between 0.5 and 1500 microns (Page 23, claim 1) in the form of a particle for the purpose of making a roofing granule (Page 1, lines 32 – 34).

Therefore, one of ordinary skill in the art would have recognized that the porcelain granule is well known in the art to as a roofing or siding system to protect building structures from the elements as shown by McArdle et al.

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have provided the aluminum phosphate granule as the

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particle adhered to the roofing substrate in Harshberger et al. since McArdle et al. teach that the particle may be used as a roofing granule as one embodiment.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 2,131,043 to Harshberger et al. is cited to show the state of the art of roofing granules made from aluminum oxide and silicon dioxide, which are adhered to a roofing surface through the use of a layer of bitumen or asphalt.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Nordmeyer whose telephone number is (571) 272-1496. The examiner can normally be reached on Mon.-Thurs. from 7:00-4:30 & alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patricia L. Nordmeyer
Examiner
Art Unit 1772

pln
pln

[Signature]
HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

6/28/04